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764-776-/794-806

## FCC Region 7 Regional Planning Committee

March 30, 2007

Office of the Secretary  
Federation Communications Commission  
Marlene H. Dortch  
Secretary  
445 12<sup>th</sup> Street, SW  
Washington, DC 20554

**RE:** WTB Docket No. 02-378, Region 7 -- 700 MHz Regional Plan

Dear Secretary Dortch:

Please accept the attached 746-776/796-806 MHz Regional Plan for Region 7 for FCC review and approval per requirements of Docket 96-86. This replaces all other previously submitted plans. Region 7 is further defined in Section 3 of the attached plan. A copy of this plan has also been forwarded to Jeannie Benfaida.

This plan was coordinated with those adjacent regions to Region 7 that have convened and formed.

If you have any questions, please contact the Regional Chairperson at 720-874-3720.

Sincerely,

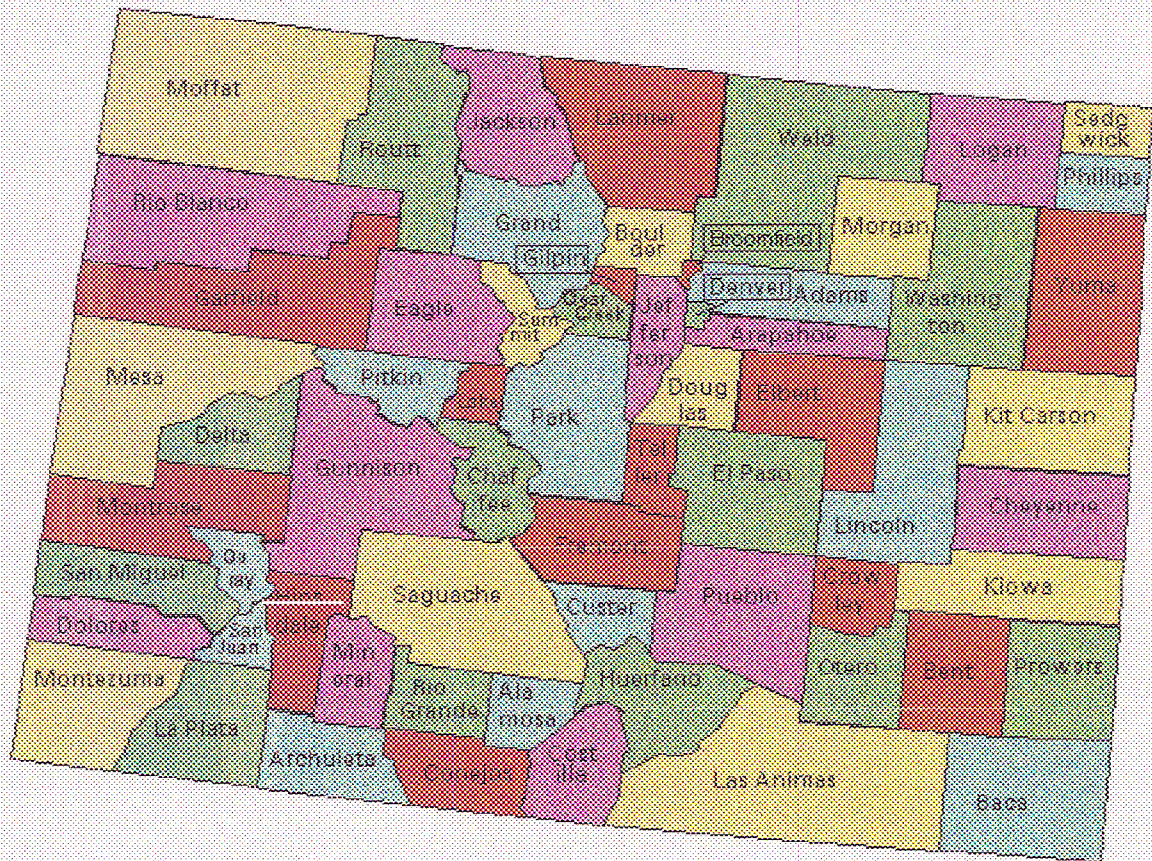


Emery Reynolds  
Chairperson, Region 7 -- 700 MHz Planning Committee  
5002 South Newton Street  
Littleton, CO 80123-1712

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1 Encl  
Region 7 - Colorado 700 MHz Regional Plan





Region 7 – Colorado  
700 MHz Regional Plan



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This document is the 700 MHz Regional Plan for Region 7, Colorado. This Plan establishes the procedures by which the Region will allocate and implement the 700 MHz General Use spectrum. The Plan was developed over a four-year period during which the Committee received input from representatives of entities eligible to hold licenses in the 700 MHz band as well as representatives from the Federal government, Native American Tribal Nations, consultants, vendors and interested members of the public. The main elements of the Plan are these:

- Spectrum Allocations will be made based on written or verbal requests from applicants at regularly scheduled RPC meetings. The Plan spells out what information and technical details must be included in the application package. Applications will be reviewed by the Frequency Advisory Committee who will provide a report and a recommendation on each application received at the next full RPC meeting. RPC members will have an opportunity to review and approve or protest the application. Once approved, the applications will be forwarded to a frequency coordinator for processing.
- The CAPRAD database will be used to administer the 700 MHz General Use spectrum and the Region will update that database as licensed are granted.
- Inter and Intra-Regional dispute resolution procedures have been developed. Inter-Regional Dispute Agreements have been signed by all adjoining Regions
- The Region will administer the Interoperability Channels via a Region 7 Interoperability Executive Committee (RIEC), using the guidelines developed by the NCC
- Procedures have been developed to address the handling of 'orphan channels', the allocation of low power channels and channels for low power secondary use
- Allocations of the narrowband channels will be made on the basis of one 25 kHz channel for every two voice channel requests and one 12.5kHz channel per each narrowband data channel request
- The wideband channels have been pre-allotted so that each county has a minimum of 150 KHz of contiguous bandwidth
- If two or more competing, mutually exclusive applications are received, the Committee will use a scoring matrix to determine which applicant will receive channels
- Applicants must acknowledge that the FCC requires a conversion to 6.25 kHz or equivalent technology by 12/31/2016.
- All adjacent Regions that have provided written concurrence with Region 7's Plan are attached as Appendix H.

**1. Regional Committee Positions**

**1.1 Regional Chair**

At the first regional plan meeting on April 20, 2001, Emery Reynolds was elected as *Regional Chair*. His contact information is below:

**Emery Reynolds**

Arapahoe County Sheriffs Office  
5002 South Newton Street  
Littleton, CO 80123-1712  
Phone 303-795-2281 / Mobile 303-328-1862  
FAX: 720-920-4000  
Email: [EmReynolds@aol.com](mailto:EmReynolds@aol.com)

**1.2 Other Officers**

At the regional plan meeting on July 29<sup>th</sup>, 2003 the Committee elected three new members. Tom Meggitt was elected Vice Chair of the Committee. His contact information is below:

**Tom Meggitt**

Denver Police Department  
Electronic Engineering Bureau  
1930 35<sup>th</sup> Street  
Denver, Colorado 80216  
Phone 303-295-4399  
Email [meggitt@ci.denver.co.us](mailto:meggitt@ci.denver.co.us)

At the regional plan meeting on July 29<sup>th</sup>, 2003 Dana Hansen was elected Secretary of the RPC. Her Contact information is below:

**Dana Hansen**

Denver Police Department  
Electronic Engineering Bureau  
1930 35<sup>th</sup> Street  
Phone 303-295-4384  
Fax 303-295-4386  
Email [hansend@ci.denver.co.us](mailto:hansend@ci.denver.co.us)

At the regional plan meeting on July 29<sup>th</sup>, 2003 Mark Stanley was elected Treasurer. His Contact information is below:

**Mark Stanley**

Arvada Police Department  
8101 Ralston Road  
Arvada, Colorado 80002  
Phone 720-898-6667  
Email [mark-s@arvada.org](mailto:mark-s@arvada.org)

## **2. Regional Plan Committee (R.P.C.) Membership**

Appendix C, Tab 3 contains the membership list, addresses, telephone numbers, agency affiliation and voting status of the current members of Region 7. Membership is open to *any interested party*. Voting and operating procedures are described in sections of *this* Regional Plan and the Bylaws (Appendix E). Membership includes members from Police, Fire, EMS, City, County, State, and Federal Government to include the Southern Ute Tribe and representative from Buckley Air Force Base. Approximately half the counties in Region 7 have active participants. Three working subcommittees have been established to work on specific issues. The three subcommittees and chairperson are listed below. Membership of these committees is listed in Appendix A.

Bylaws committee – Barbara Griebel, Chairperson

Frequency Advisory Committee – Dennis Kalvels , Chairperson

Core Workgroup Committee – Gary Pasicznyk, Chairperson

## **3. Region Description**

Region 7 commonly referred to as State of Colorado, consists of 64 counties – Adams, Alamosa, Arapahoe, Archuleta, Baca, Bent, Boulder, Broomfield, Chaffee, Cheyenne, Clear Creek, Conejos, Costilla, Crowley, Custer, Delta, Denver, Dolores, Douglas, Eagle, El Paso, Elbert, Fremont, Garfield, Gilpin, Grand, Gunnison, Hinsdale, Huerfano, Jackson, Jefferson, Kiowa, Kit Carson, La Plata, Lake, Larimer, Las Animas, Lincoln, Logan, Mesa, Mineral, Moffat, Montezuma, Montrose, Morgan, Otero, Ouray, Park, Phillips, Pitkin, Prowers, Pueblo, Rio Blanco, Rio Grande, Routt, Saguache, San Juan, San Miguel, Sedgwick, Summit, Teller, Washington, and Weld. There are two (2) Colorado federally recognized Indian Tribes in Region 7 they are the Ute Mountain and Southern Ute tribes.

The Colorado terrain is varied and rugged. Elevations range from about 3000 feet to over 14,000 feet above sea level. Population is concentrated along the front range of the mountains (eastern side) with most of that in the Denver Metropolitan area and the Colorado Springs/El Paso County areas.

Other areas of Colorado have small concentrated areas of population with vast areas of mountains and high plains with sparse population. The Denver Metropolitan area, including its surrounding areas, Adams, Arapahoe, Boulder, Broomfield, Denver, Douglas, and Jefferson Counties, requires a large amount of spectrum to support public safety services to the 2+ million citizens. All types of public safety agencies and services are located in this region.

## **4. Notification Process**

The First Regional Plan Meeting was held on April 20, 2001. The FCC did issue a Public notice (DA 01-547, see Exhibit 1) for this meeting. Notices were sent by mail/email to APCO, FCCA, IMSA, ASHTO and the FCC. Region 7 gave all eligible entities within the region 60 days notice prior to the first meeting. The meeting was advertised in the APCO



Magazine and the APCOINENA Microphone (the local Association of Public Safety Communications Officials (APCO) chapter, and National Emergency Number Association (NENA) chapter) News Letter. The convener, Emery Reynolds also contacted several agencies via email that had expressed interest in the planning process. The APCOINENA MicroDhone is sent monthly to nearly all public safety agencies and was considered the primary notification method.

Tribal Nations, State Emergency Management, National Security and Homeland Security personnel were notified. Details are attached in Appendix C.

The second meeting was held on October 26, 2001. The FCC did issue a Public notice for this meeting. The meeting was again advertised in the APCOINENA Microphone. During the meeting an opportunity was given for anyone not at the first meeting to object and ask for a **revote** on decisions made. No one came forward to object. As the primary purpose of the planning effort is to allocate spectrum to public safety agencies needing additional spectrum, the Committee made special efforts to allow agencies to come **forward** and demonstrate a need for additional spectrum.

This was advertised at APCO/NENA monthly Meetings and in the APCOINENA Microphone. The local APCO frequency advisor personally contacted several agencies he knew of that had unfilled needs that were long standing. All meeting notices, minutes and members of the committees are shown in the appendixes of this plan.

## **5. Regional Plan Administration**

### **5.1 Operations of the Regional Plan Committee**

All decisions will be by clear consensus vote with each Member Agency having one vote. The meetings are open to all persons and a public input time is given for anyone to express a viewpoint or to have input to the planning.

Workgroups or Committees are formed as needed to work on specific issues. For the initial planning, three workgroups were formed-writing group (Core Group), spectrum planning group (Frequency Advisory Committee) and operations group (Bylaws Committee). Workgroups are intended to work on details of specific issues and make recommendations to the full committee. Workgroups are open to any who want to participate. The Committee appoints the Chair for each workgroup.

A minimum of one meeting per year will be held of the full Regional Planning Committee (RPC). This will be announced and advertised 30 days in advance by the Committee Chair. Any changes to the Regional plan must be voted and approved by the full Regional Plan Committee.

After the Federal Communications Commission approval of this Regional Plan, the Chair shall call a meeting of the Committee to elect a Chair, Vice Chair and Secretary to serve for two years. There is no limit to the number of terms that may

be served in accordance with the bylaws Appendix E (Bylaws).

If the Chair is unable to serve a complete term the Vice Chair will serve as Chair until the next election meeting. If both the Chair and Vice Chair are unable to serve their full terms one or the other should strive to call a special meeting of the Committee to elect replacements. If for some reason, neither the Chair nor the Vice Chair can call the special meeting, the State or any County within the region may call for a special meeting, giving at least 30 days notice, to elect replacements.

## 5.2 Procedure for Requesting Spectrum Allocations

After plan approval, agencies desiring a spectrum allocation shall provide written or verbal notification at a scheduled Region 7, 700 MHz Regional Committee meeting, their intent to submit a written request. Written requests indicating an agency's need for spectrum shall be submitted to the Chair of the Regional Planning Committee, with a copy of the request submitted to the Chair of the Frequency Advisory Committee. The Chair of the Frequency Advisory Committee will enter appropriate information into CAPRAD. The requests will be considered, provided that harmful interference is not caused to existing users. The technical parameters to determine the extent of any possible interference are given in Section 7, of this Plan.

Application package to include:

1. Description of the proposed system
2. Justification to include:
  - Compliance to criteria; Appendix D.
  - Spectrum loading.
  - Specific bandwidth purpose.
  - Specify frequency request and reasons why.
  - Specify what spectrum and technology has been considered, and the reason(s) it won't work for your organization.
  - Point to point vs. wide area.
  - Substantiated Funding description
3. FCC 601 Application
4. Interference protection map reference current TSB-88 guidelines

Requests for spectrum allocation grants are **not** a first come first served procedure. Justification is required for obtaining spectrum. Allocations shall remain unassigned until such time that potential users can submit a plan, a schedule, loading and substantiate funding. Upon receipt of an application, the Chair of the RPC or designee, will log receipt of the application, annotate the type of request, and acknowledge the receipt of the application via e-mail notification. The Chair of the

Frequency Advisory Committee (FAC) will convene a meeting of the committee to review the spectrum applications for verification of criteria and make recommendations to the RPC for approval of channel assignment grants. The Region's frequency pre-allotment plan, attached as Appendix L (Frequency Pre-Allotments Plan), will initially be used for channel assignments. FAC will manage the channel grants with final approval by RPC. Applications for channel grants should meet the criteria (in Appendix D) in order to expedite approval. If competing channel requests are received, the criteria matrix will be used to evaluate competing applications within the region. The total number of points will be used to allocate channels proportionately to the competing applicant. Some aspects of criteria may be subjective. The FAC makes final determination on how the criteria are applied. The FAC will report to the RPC at the next regularly scheduled meeting the current standing of the request for inclusion in the RPC meeting minutes. At that meeting, the application will be available to all other agencies for review and approval. From the date of the RPC meeting, an agency has 30 days to file a protest to the application with the RPC Chairperson. Absent a protest, the application is considered approved by the RPC.

Protests will only be considered if the allocation does not conform to plan criteria, or an agency or the Chair can show harmful interference is likely based on the input submitted by the agency requesting the new allocation. If the parties cannot resolve the issues within 14 calendar days and so inform the Chair, then a full Committee meeting will be scheduled to consider and vote on the protest. Absent a protest, the allocation will be approved by the Chair and submitted to the applicant's chosen frequency coordinator for processing.

Spectrum allocations will be recommended for approval by the RPC on an as justified basis. Upon completion of each request, a progress report submitted by the applicant shall be reviewed and approved by the RPC. The report will be reviewed by the RPC/FAC for compliance with the submitted plan, funding, loading and schedule. Upon approval of the report the RPC/FAC may grant the next increment of frequency allocation upon request. This process will be repeated until the total spectrum allocation has been granted. This process would prevent agencies from applying for spectrum and not using it. The RPC will notify the FCC of any non-used licensed frequencies. This allows for unused frequencies to be returned to an un-licensed pool for re-licensing to other agencies. Applications for frequencies in excess of the pre-allotment plan found in Appendix L shall clearly state that the request is for additional frequencies.

Chair and Vice Chair of FAC will have editing privileges of the CAPRAD database. All others will have Read Only privileges.

### **5.3 Procedure for Frequency Coordination**

Before applicants submit an application to one of the FCC recognized frequency coordinators, the application must be approved at a meeting of the Frequency

Advisory Committee, a sub-committee of the Regional Planning Committee. The Frequency Advisory Committee will review the application to ensure it complies with all elements of the Regional Plan.

Applicants must submit a copy of the **FCC** application and supporting documents to the Frequency Advisory Committee Chair. An interference prediction map must be included in the documentation. The current version of TIA/EIA TSB88 will be used to produce the interference map. The map must show all interference predicted using current TSB88 guidelines. Any existing agency with co-channel or adjacent channel allocations may request through the Regional Planning Committee (RPC) the applicant to conduct field tests of signal levels to verify predicted destructive interference signal levels. Applicants must be prepared to conduct these field tests if a request is made. All applicants must meet the coverage criteria of Section 7.

The Frequency Advisory Committee's review of the application will NOT be a review to ensure that the application meets FCC requirements for filing.

## **5.4 Bylaws**

The Region 7 Bylaws are attached at Appendix E.

## **5.5 Intra-Regional Dispute Resolution**

In the event an agency disputes the implementation of this plan after FCC approval, the agency must notify the Chair of the dispute in writing. This section does not apply to protests over new spectrum allocations (see Section **5.2**).

The Chair will attempt to resolve the dispute on an informal basis. If a party to the dispute employs the Chair, then the Vice Chair will attempt resolution. In such cases, the Chair shall be deemed to have a conflict of interest and will be precluded from voting on such matters.

If after 30 days the dispute is not resolved, the Chair (or Vice Chair) will appoint an ad-hoc Dispute Resolution Committee. The committee shall be comprised of a member from the State of Colorado and members selected from representatives of the counties in the region, and ~~two~~ members from major metropolitan areas. No member selected may be from an agency involved in the dispute. That committee will select a Chair to head the committee. The Regional Plan Chair (or Vice Chair) will represent the Region in presentations to the Dispute Resolution Committee.

The Committee will hear input from the disputing agency, any effected agencies and the Region Chair. The Committee will then meet in executive session to prepare a recommendation to resolve the dispute. Should this recommendation not be acceptable to the disputing agencies, the dispute and all written documentation will be forwarded to the Federal Communications Commission for final resolution.

## 5.6 Inter-Regional Dispute Resolution Process

Should a dispute arise *between* Colorado and any *of* the adjacent Regions, Colorado will abide by the attached Intra-Regional Dispute Resolution Process (IDRP) Agreements (see Appendix F, Dispute Resolution Guide). IDRP Agreements have been negotiated between Colorado and adjacent regions (See Appendix G, Adjacent Regions Concurrence).

## 6 Interoperability Channels

### 6.1 Introduction

The ability for agencies to effectively respond to mutual aid requests directly depends on their ability to communicate with each other. Colorado is subject to many natural disasters and mutual aid is a common necessity among agencies. This Plan seeks to facilitate the communications necessary for effective mutual aid.

The Regional Plan Committee will administer the interoperability channels as a Region 7 Interoperability Emergency Committee (RIEC). a primary function of the Core Workgroup Committee of the Regional Plan is to provide guidance under NCC guidelines to the RIEC. Once the Regional Plan is completed. This plan is giving the following guidance to the RIEC to take into account the needs of Colorado

### 6.2 Tactical Channels.

This Region may set aside additional channels beyond those established by the FCC in their band allocations, for interoperability use. Because of the extensive mutual aid operations that can involve several mutual aid operations simultaneously, all mobile and portable units operating under this Plan should have all the interoperability channels, both repeat and direct modes, programmed into each unit. The radios must be programmed with the minimum number of channels called for in NCC guidelines or as the RIEC specifies. The channels display will be in accordance with the NCC guidelines that have common alphanumeric nomenclature to avoid any misinterpretation of use. Region 7 guidelines are attached as Appendix I, Interoperability Channels.

### 6.3 Deployable Systems

This Plan supports use of deployable systems, both conventional and trunked. Deployable systems are prepackaged systems that can deploy by ground or air to an incident to provide additional coverage and capacity on interoperability channels. This will minimize the expense of installing extensive fixed infrastructure and recognizes the difficulty of providing complete coverage of the region due to environmental constraints.



Agencies should have conventional deployable systems capable of being tuned to any of the interoperability tactical channels. Those agencies that are part of a multi-agency trunked system and commonly provide mutual aid to each other are encouraged to have trunked deployable systems that operate on the tactical channels designated by the FCC for this use. The RIEC will develop the operational details for deploying these systems.

It is expected that the tactical channels set aside for trunked operation will be heavily used by deployable systems. Therefore, the tactical channels cannot be assigned to augment general use trunked systems.

#### **6.4 Monitoring of Calling Channels**

It is desired that the Colorado Department of Public Safety take responsibility for monitoring the interoperability and calling channels wherever possible. Where the Colorado Department of Public Safety Communication Center is not available, the local major public safety agency will assume the responsibility. This would include assignments of channels to mutual aid incidents as required. The RIEC will develop and update operational guidelines for this function to be found in Appendix I, Interoperability Channels.

### **7 Interference Protection**

The frequency allotment list is based on an assumption that the systems will be engineered on an interference-limited basis not a noise floor-limited basis. Agencies are expected to design their systems for maximum signal levels within their coverage area and minimum levels in the coverage area of other co-channel users. Coverage area is normally the geographical boundaries of the Agency(s) served plus a three-mile area beyond.

Systems should be designed for minimum signal strength of 40 dB $\mu$  in the system coverage area while minimizing signal power out of the coverage area. TIA/EIA TSB88-A (or latest version) will be used to determine harmful interference assuming 40 dB $\mu$ , or greater, signal in all systems coverage areas. This may require patterned antennas and extra sites compared to a design that assumes noise limited coverage. 40 dB $\mu$  as a standard level may change and be replaced by the Regional Planning Committee when deemed necessary.

To maximize spectrum utilization, receivers of the highest quality must be used in systems. Given a choice of radios to choose from in a given technology family, agencies should use the units with the best specifications. This plan will not protect agencies from interference if their systems utilize low quality receivers.

### **8 Allocation of Spectrum**

### 8.1 Narrow Band “General Use”

The Region 7 Core Workgroup Committee recommends that allotments be made on the basis of one 25 KHz channel for every two (2) voice channel requests and one 12.5 KHz channel for each narrowband data channel request. This recommendation is approved by the full Committee and is part of this plan. Allotments will be made in 25 KHz groups to allow for various digital technologies to be implemented. All agencies requesting spectrum during the initial tiling window (see Section 5.2) will be allocated channels if plan requirements are met. Agencies using Frequency Division Multiplexing (FDMA) will be expected to maintain 12.5 KHz equivalency when developing systems and will be required to utilize BOTH 12.5 KHz portions of the 25 KHz block. In most cases, this will require the geographic separation of each 12.5 KHz adjacent channel. In order to promote spectrum efficiency, Region 7 will ensure that systems allocated 25 KHz channel blocks will utilize all of the channel and not “orphan” any portions of a system designated channel. (See Section 8.2)

It is the eventual goal of the FCC and the public safety community for radio equipment to meet the requirement of one voice channel per 6.25 KHz of spectrum. When applying for channels within Region 7, the applicants should acknowledge the deadline for converting all equipment to 6.25 kHz or 6.25 kHz equivalent technology is 12/31/2016. For narrowband mobile data requests, one mobile data channel will consist of two (2) 6.25 KHz channels/one (1) 12.5 KHz channel. Narrowband 6.25 KHz channels can be aggregated for data use to a maximum bandwidth of 25 KHz. As 6.25 KHz migration evolves, an agency that creates any “orphaned” 6.25 KHz channels should realize that these channels would be allocated to nearby agencies requesting channels to maintain consistent grouping and utilization of 25 KHz blocks within the region. (See Section 8.2)

Region 7 encourages small agencies to partner with other agencies in multi-agency or regional systems as they promote spectrum efficiency and both small and large agency capacity needs can be met. Loading criteria can also be achieved in multi-agency systems that will allow greater throughput for all agencies involved than that which could be achieved individually.

### 8.2 Orphaned Channels

The narrowband pool allotments will have a channel bandwidth of 25 kHz. These 25 kHz allotments are characterized as “Technology Neutral” i.e. able to accommodate multiple technologies utilizing multiple bandwidths. If agencies choose a technology that requires less than 25 kHz channel bandwidth for their system, there is the potential for residual, “orphaned channels” of 6.25 kHz or 12.5 kHz bandwidth immediately adjacent to the assigned channel. An orphan channel may be used at another location within the county area where it was originally approved, if it meets co- and adjacent channel interference criteria.

When in the best interest of public safety communications and efficient spectrum use within the Region, the Region 7 Regional Planning Committee shall have the authority to move these orphan channel allotments, and/or co-/adj- channel allotments affected by the movement of orphan channels, to other areas throughout the Region, as deemed necessary to retain spectrum efficiency and/or minimize co-channel or adjacent channel interference. If it is required to move a full 25 kHz channel (or a portion of a channel) allotment to a location outside of the county area in which it was originally approved, the Region 7 Planning Committee, Frequency Advisory Committee will review the application and advise the full committee as to whether or not the full/partial channel allotment meets frequency coordination guidelines and should be moved to accommodate an application at hand. The movement of the full/partial channel allotments can be approved on a majority vote of Regional Planning Committee members in attendance at a special or regular meeting of the Regional Planning Committee.

If the movement of a full/partial channel allotment is deemed in the best interest of the public safety community, and the relocation requires moving a channel a distance of less than 10 miles outside of its original county area boundaries, there will be no plan amendment required.

If the movement of a full/partial channel allotment is deemed in the best interest of the public safety community, and the relocation requires the movement of a channel to a location within 25 miles outside of its original county area boundaries, the Region will be required to amend the Regional Plan and submit the amendment to the FCC along with obtaining adjacent Region concurrences for the plan update.

If the movement of a full/partial channel allotment is deemed in the best interest of the public safety community, and the relocation requires moving a channel from Region 7 to another Region in an instance of inter-Regional sharing, Region 7 will amend the Region 7 plan to reflect the changes and submit a plan amendment to the FCC accompanied with adjacent Region concurrences from the participating Region.

### **8.3 Low Power Secondary Operations**

To facilitate portable operation by any licensee, and to provide channels for such operation without impacting the use of primary channels, certain secondary use will be permitted. Any public safety entity otherwise licensed to use one or more channels under this Plan may receive authorization to license any additional channel for secondary use, subject to the following criteria:

All operation of units on such authorized channels will be considered secondary to other licensees on both co-channel and adjacent channels.

No channels on, or adjacent to, those designated in the Plan for wide area operation and/ or mutual aid use will be authorized.

Channels will be authorized for use in specific areas only, such areas to be within the licensees authorized operational area.

*Maximum power will be limited to 6 watts ERP*

For use aboard aircraft, see FCC Rules.

Applications for channels may be submitted to the Frequency Advisory Committee for consideration at any time and must be accompanied by a showing of need. The Committee may select and authorize licensing of these secondary use channels after consideration of potential interference to co-channel and adjacent channel allotments, allocations and licensees. Authorization may be granted for use of any suitable channel, without prior allotment or allocation to the requesting agency.

### **8.4 Low power Channels**

These channels may operate using analog operation. To facilitate analog modulation this plan will allow aggregation of two channels for 12.5 kHz bandwidth. On scene temporary base and mobile relay stations are allowed (to the extent FCC rules allow) with an antenna height limit of 6.1 meter (20 feet) above the ground. However, users are encouraged to operate in simplex mode whenever possible. This plan does not limit use to only analog operations, these channels are intended for use in a wide variety of applications that may require digital modulation types. (Specify TAC Channels here)

### **8.5 Wideband Data**

TIA has developed a wideband data interoperability standard based on 50 KHz channel bandwidth. Region 7 Regional Planning Committee shall also consider applications for aggregation of data channels up to 150 KHz. Each county within Region 7 shall be allotted, at a minimum, 150 KHz of contiguous bandwidth. If one entity exhausts the spectrum resource within the county, thus precluding assignment to other interested agencies, that agency must demonstrate its willingness to cooperate with the precluded agencies within the county to provide access its facilities for throughput. In such situations, each agency shall internally negotiate costs without mediation by the Regional Planning Committee. The final implementation budget, as well as the abridged loading figures shall be forwarded to Region 7 prior to adding the new users.

The ranking criteria for each allocated 50 KHz General Use Wideband data channel in Region 7 will be developed in accordance with National Public Safety Telecommunications Council (NPSTC) guidelines. Applicants will be required to provide the Regional Planning Committee with their identified wideband needs so the region can determine the number of wideband data channels needed.

## 9 System Implementation

Agencies must release a System RFP within one year and sign a contract with a vendor within one year of releasing the System RFP. For Region 7, implementation of general use channels shall be governed by FCC Rule 90.529(b) and (c). If an agency does not implement in the time frames specified, that agency's allocation may be removed from the allocation list and placed in a pool. An Agency may file a request with the Region Chair for an extension of time to implement. The request should include all details describing why the agency has not implemented and a new implementation schedule. The Committee Chair will advertise this request and set a date for the full committee to vote on the request. If no request for extension is received or the Committee votes not to extend implementation, the Committee Chair will advertise this action and place the allocation into a pool resource allowing other agencies a chance to request an allocation of that spectrum.

## 10 Spectrum Utilization

In the two high population density areas of Colorado, the Denver Metro area and Colorado Springs area, spectrum for public safety is chronically short to support all needs. Colorado is a leader in spectrum efficient use of public safety spectrum.

The Frequency Advisory Committee recommends that allotments be made on the basis of one 6.25 kHz channel for each voice channel request and two 6.25 kHz channels for each narrowband data channel request. This recommendation is approved by the full Committee and is part of this plan. This allows for the full agency needs to be met and the committee believes also conforms to the FCC intent to require use of technology that yields one voice path for each 6.25 kHz of spectrum.

This plan does not limit an agency from initially implementing (if it conforms to FCC rules) a technology that yields less than one voice channel per 6.25 kHz channel or aggregating narrowband data into 12.5 kHz or 25 kHz blocks. The agencies are on notice that they will not receive additional allotments due to using technology that yields less than one voice channel per 6.25 kHz of spectrum or narrowband data of less than 19.2 kbps per 12.5 kHz of spectrum.

## 11 Coordination with Adjacent Regions

Region 7 shares borders with:

- Arizona (Region 3)
- Kansas (Region 16)
- Nebraska (Region 26)
- New Mexico (Region 29)
- Oklahoma (Region 34)
- Utah (Region 41)
- Wyoming (Region 46)
- Texas Panhandle, High Plains and Northwest (Region 52)



All of these Regions have convened and begun their Regional Planning process. The Chair has sent draft and final copies of this plan to the convener or Chair, as appropriate, of each adjacent region. Region 7 has **received written** approval from all adjacent Regions except Wyoming (Region 46). Those approvals of the Region 7 plan are attached as Tabs to Appendix H.

Region 7 has received written, signed Inter-Regional Coordination Procedures with from all adjacent Regions. Those agreements are attached to the plan as **Tabs** to Appendix G.

Waivers of the adjacent Region concurrence requirement(90.527(a)(5)) are attached as Appendix N for Region **46**.

## **Appendix A (Committee/Workgroup Membership) Region 7 - 700 MHz Regional Plan**

### **Core Committee:**

The Core Committee for Region 7 Colorado was established to write the Regional Plan for Region 7. **The main objective of the Core Committee is to produce a written plan that** will address all aspects and needs for Region 7. This plan will then be sent to the FCC for their approval of the plan for Region 7.

The members of the Committee volunteered to participate. A Chairperson was suggested to help facilitate the meetings and schedules. The Core Committee has met several times.

Throughout the membership, aspects of the plan have been addressed and language was written to be placed in the plan. This has been mutually agreed upon among the members of the Core Committee.

It is the main goal of the Core committee to be able to produce a plan that addresses all needs of any agency throughout Region 7. This plan will then be accepted by the Regional Committee members and sent to the FCC for approval.

### **Members:**

Gary Pasicznyk, Denver Police Department, Committee Chair  
Gary Wilton, Arapahoe County Sheriffs Office, Vice Chair  
Bob Ricketts, El Paso County  
Jay Chupp, El Paso County  
Dan Gorton, Pikes Peak Regional Communications Network  
Jeff Vaughn, Douglas County Sheriffs Office  
Bob Frank, City of Aurora  
Jerry Kuzior, Denver Fire Department  
Tom Meggitt, Denver Police Department  
Walt Leslie, Ad COM Communications  
Dennis Kalvels, State of Colorado  
Randy Bell, City of Colorado Springs

### **Frequency Advisory Committee:**

The Frequency Advisory Committee mentioned within this document is constituted as follows: eight (8) members in the following categories – Chairman, Vice Chairman, City Government, County Government, Police Services, Fire Services, EMS Services, and State Government or At-Large Member. The members of the Frequency Advisory Committee are selected by the Regional Planning Committee,

## Appendix A (Committee/Workgroup Membership) Region 7 - 700 MHz Regional Plan

The Frequency Advisory Committee meetings will be held as needed to review applications but normally concurrent with the Colorado Chapters of APCO and NENA monthly meeting. The APCO/NENA meetings are normally attended by many of the public safety agencies in Colorado.

### Members:

| Category | Name                   | e-mail   |
|----------|------------------------|--|
| City     | Barb Griebel           | <a href="mailto:barb.griebel@broomfieldco.org">barb.griebel@broomfieldco.org</a> |
| State    | Dennis Kalvels, Chair  | <a href="mailto:dennis.kalvels@state.co.us">dennis.kalvels@state.co.us</a>       |
| County   | Bill Malone            | <a href="mailto:malone@adcom91.org">malone@adcom91.org</a>                       |
| At Large | W. Daniel Gorton       | <a href="mailto:dgorton@cityofdenver.org">dgorton@cityofdenver.org</a>           |
| Sheriff  | Dean Scott, Vice Chair | <a href="mailto:dscott@co.boulder.co.us">dscott@co.boulder.co.us</a>             |
| Police   | Jeffery Vaughn         | <a href="mailto:jvaughn@douglasco.org">jvaughn@douglasco.org</a>                 |
| EMS      | Trina Everhart         | <a href="mailto:teverhart@englewoodgov.org">teverhart@englewoodgov.org</a>       |
| Fire     | Jerry Kuzior           | <a href="mailto:jerry.kuzior@cityofdenver.org">jerry.kuzior@cityofdenver.org</a> |
| Tribe    | (Vacant)               |  |

### Bylaws Committee:

The Bylaws Committee for Region 7 Colorado was established to write the Regional Bylaws for Region 7. The main objective of the Bylaws Committee was to produce written bylaws, provided as Appendix E, that will address all aspects and needs for Region 7.

### Members:

Barb Griebel, Broomfield PD  
 Vicki Pickett, Westminster PD  
 Dennis Kalvels, State of Colorado  
 Bob Frank, City of Aurora  
 Jordan Drazin, City and County of Denver  
 Tom Meggitt, City and County of Denver  
 Trina Everhart, Englewood Safety Services  
 Bill Malone, AdCom  
 Jeff Vaughn, Douglas County S.O.  
 Randy Smith, Jefferson County

**Appendix B** (Description of Existing Interoperability Contracts, Compacts, Mutual Aid Agreements, etc.) Region 7 - 700 MHz Regional Plan

Appendix B consists of separate Tabs for ease of finding the specific documentation.

**Tab 1** – MOU Denver Police Departments and *Arvada/Westminister Police* Departments

Tab 2 – CCNC Mutual Aid SOP

**Appendix B** (Description of Existing Interoperability Contracts, Compacts, Mutual Aid Agreements, etc.) Region 7 · 700 MHz Regional Plan

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**Tab 1 ( MOU Denver PD & Arvada/Westminster PDs) Appendix B  
(Description of Existing Interoperability Contracts, Compacts, Mutual Aid  
Agreements, etc.) Region 7 - 700 MHz Regional Plan**

**MEMORANDUM OF UNDERSTANDING  
RADIO CONTINGENCY PLAN**

**The Denver Police Department and the Arvada/Westminster Police  
Departments**

In the event that the Arvada/Westminster Radio System would lose or have a catastrophic failure of the "Eldorado" tower site or any other major radio system failure, *radio transmissions* could be moved over to the "Denver site" where the main communications tower is located on Mount Morrison. The coverage of this site would allow for the Arvadamestminster Police Department to continue operating. The Denver site is equipped with a compatible EDACS system as is the current Arvadamestminster system.

The Arvada and Westminster Police Departments have agreed to provide the Denver Police Department with five talk groups (also known as GIDs-group identifiers) that can be programmed into the Denver Police Department radios. (The Arvadamestminster Radio System is part of a shared radio system with the Westminster radio system, Denver would acquire a total of five talk groups from their combined system.) In return, the Denver Police Department has agreed to provide Arvada with three talk groups that they will program into their radios. Westminster Police would also be provided with three talk groups, two talk groups for police and one for fire, for a total of six talk groups provided to Arvadamestminster Radio System for backup on the Denver system.

**PROTOCOL FOR USE OF BACK-UP SITES:**

When the Denver Police Department requires use of the Arvadamestminster Radio System, they would make a notification to the Arvada Department's Communications Center at 720-898-6900. If the Arvada or Westminster Police Departments would need to use the Denver radio system, notification should be made to the Denver Police Department's Communication Center at 720-913-2012 (this is the phone number for the on duty supervisor). Each agency will be cognizant of the duration the back-up sites will be used and make an estimate of how long the back up site will be used.

The CLEER Channel (Colorado Law Enforcement Emergency Radio) may also be used for notification.

Agencies shall promptly notify host agency when the need for use of their system as a backup has ended and use of the system will be discontinued.

**TALK GROUPS TO BE PROVIDED TO THE DENVER SYSTEM:**

The Arvadamestminster Radio System provides coverage to the cities of Arvada and Westminster. At this point, it covers only a small portion of the Northwest quadrant in

**Tab 1 ( MOU Denver PD & Arvada/Westminster PDs) Appendix B**  
(Description of Existing Interoperability Contracts, Compacts, Mutual Aid Agreements, etc.) Region 7 - 700 MHz Regional Plan

the City of Denver, Because of these coverage issues, Denver will retain the right to use up to five talk groups from the Arvada/Westminster system, however no programming of the Arvada/Westminster system into Denver radios *will* be **done at this** time.

**TALK GROUPS TO BE PROVIDED TO THE ARVADA/WESTMINSTER SYSTEM:**

In the Arvada/Westminster, the designated talk groups that will be provided by the Denver Police Department will be titled as follows:

**DENARV1**

**DEN ARV2**

**DEN ARV3**

**DEN WEST1**

**DEN WEST2**

**DEN WFIRE**

**USER INSTRUCTIONS WHEN RADIOS ARE CHANGING SYSTEMS:**

Arvada and Westminster Police Dispatchers and Users will need to switch to the appropriate backup system and talk group in the event of a failure of the Eldorado site, when switching to the Denver radio system.

**TALK GROUPS FROM THE EXISTING DENVER SYSTEM:**

The Denver Police Department has also agreed to provide the Arvada and Westminster Police Departments with "working" talk groups from the Denver radio system. These are talk groups that are currently in use by the Denver Police Department that can be used or monitored in the event of an emergency or planned event.

- **DISP1** – This group is the main "working" talk group for the Denver Police District One area. This talk group is for the Northwest quadrant of the City of Denver, which borders the City of Arvada at West 52<sup>nd</sup> Avenue and Sheridan Blvd.
- **TAC1** – This group is the "tactical" talk group that corresponds to the fleet map associated with DISP1. This is the tactical channel for special operations that occur in District One.
- **DISP2** - This talk group is the main "working" talk group for the Denver Police Department's Northeast quadrant of Denver.
- **TAC2** – This group is the "tactical" talk group that corresponds to the fleet map associated with DISP2. This is the tactical channel used for special operations that occur in District Two.
- **USC2** – This is the talk group used by the "Gang" officers for the Denver Police Department. This is also known as the "Urban Street Crime Bureau" talk group.